

In [7]: `%%latex`  
 Teil 1: Skript Nr. 1 abcf, 2, 3a-f, 4,7-9, 10 a+b  
 Teil 2: Skript Nr. 1 Rest, 3 Rest, 5, 6, 10 Rest

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In [10]: `%%latex`  
`$16*(\frac{a}{2}+\frac{b}{4})$`

$$16 * \left( \frac{a}{2} + \frac{b}{4} \right)$$

In [13]: `%%latex`  
`$(2-0.6b)(2+0.6b)$`

$$(2 - 0.6b)(2 + 0.6b)$$

In [15]: `%%latex`  
`$4-(0.6b)^2$`

$$4 - (0.6b)^2$$

In [16]: `%%latex`  
`$4-0.6^2b^2$`

$$4 - 0.6^2 b^2$$

In [18]: `%%latex`  
`$4-\frac{6}{10}^2b^2$`

$$4 - \frac{6}{10}^2 b^2$$

In [19]: `%%latex`  
`$4-\frac{6^2}{10^2}b^2$`

$$4 - \frac{6^2}{10^2} b^2$$

In [20]: `%%latex`  
`$4-\frac{36}{100}b^2$`

$$4 - \frac{36}{100} b^2$$

In [21]: `%%latex`  
`$4-0.36b^2$`

$$4 - 0.36b^2$$

In [23]: `%%latex`  
`$(2+1.4b)^2$`

$$(2 + 1.4b)^2$$

In [24]: `%%latex`  
`$4+2*2*1.4b+(1.4b)^2$`

$$4 + 2 * 2 * 1.4b + (1.4b)^2$$

In [25]: `%%latex`  
`$4+5.6b+1.96b^2$`

$$4 + 5.6b + 1.96b^2$$

In [26]: `%%latex`  
`$(d-a)^2 = b - 12dg+36g^2$`

$$(d - a)^2 = b - 12dg + 36g^2$$

In [27]: `%%latex`  
`$d^2-2ad+a^2 = b - 12dg+36g^2$`

$$d^2 - 2ad + a^2 = b - 12dg + 36g^2$$

In [29]: `%%latex`  
`$a=6g$`

$$a = 6g$$

In [32]: `%%latex`  
`$d^2-2(6g)d+(6g)^2 = b - 12dg+36g^2$`

$$d^2 - 2(6g)d + (6g)^2 = b - 12dg + 36g^2$$

In [33]: `%%latex`  
`$d^2-12gd+36g^2 = b - 12dg+36g^2$`

$$d^2 - 12gd + 36g^2 = b - 12dg + 36g^2$$

In [9]: `%%latex`  
`$5*(x+y+z)-7(x-y+z)-8(x+y-z)$`  
`$=5*x+5*y+5*z-7x+(-7)(-y)+(-7)z-8x-8y-8*(-z)$`  
`$=5*x+5*y+5*z-7x+7y-7z-8x-8y+8z$`  
`$=-10x+4y+6z$`

$$\begin{aligned} & 5 * (x + y + z) - 7(x - y + z) - 8(x + y - z) \\ &= 5 * x + 5 * y + 5 * z - 7x + (-7)(-y) + (-7)z - 8x - 8y - 8 * (-z) \\ &= 5 * x + 5 * y + 5 * z - 7x + 7y - 7z - 8x - 8y + 8z = -10x + 4y + 6z \end{aligned}$$

In [12]: `%%latex`  
`$25m + (13n - 8z) + (5z + 7m) - (11m + 5n) - (13z-17n)$`  
`$= 25m + 13n - 8z + 5z + 7m - 11m - 5n - 13z+17n$`

$$= 21m + 25n - 16z$$

$$\begin{aligned} & 25m + (13n - 8z) + (5z + 7m) - (11m + 5n) - (13z - 17n) \\ &= 25m + 13n - 8z + 5z + 7m - 11m - 5n - 13z + 17n = 21m + 25n - 16z \end{aligned}$$

In [16]: %%latex

$$69p + [13q - (17p + 11q)] - [11p - (13p - 17q)]$$

$$= 69p + [13q - 17p - 11q] - [11p - 13p + 17q]$$

$$= 69p + [2q - 17p] - [-2p + 17q]$$

$$= 69p + 2q - 17p + 2p - 17q$$

$$= 54p - 15q$$

$$\begin{aligned} & 69p + [13q - (17p + 11q)] - [11p - (13p - 17q)] = 69p + [13q - 17p - 11q] - [11p - 13p + 17q] \\ &= 69p + [2q - 17p] - [-2p + 17q] = 69p + 2q - 17p + 2p - 17q = 54p - 15q \end{aligned}$$

In [21]: %%latex

$$(3a + 5b) - \{11a - [5c - (9b - 8a)] + 13b\}$$

$$= 3a + 5b - \{11a - [5c - 9b + 8a] + 13b\}$$

$$= 3a + 5b - \{11a - 5c + 9b - 8a + 13b\}$$

$$= 3a + 5b - 11a + 5c - 9b + 8a - 13b$$

$$= -17b + 5b$$

$$\begin{aligned} & (3a + 5b) - \{11a - [5c - (9b - 8a)] + 13b\} = 3a + 5b - \{11a - [5c - 9b + 8a] + 13b\} \\ &= 3a + 5b - \{11a - 5c + 9b - 8a + 13b\} = 3a + 5b - 11a + 5c - 9b + 8a - 13b = -17b + 5b \end{aligned}$$

In [3]: %%latex

$$(a - b) * (2x + 3y) - (a - b)(x - y) + (a - b)(x - 3y)$$

$$= (a - b) * ((2x + 3y) - (x - y) + (x - 3y))$$

$$= (a - b) * (2x + 3y - x + y + x - 3y)$$

$$= (a - b) * (2x + y)$$

$$\begin{aligned} & (a - b) * (2x + 3y) - (a - b)(x - y) + (a - b)(x - 3y) \\ &= (a - b) * ((2x + 3y) - (x - y) + (x - 3y)) = (a - b) * (2x + 3y - x + y + x - 3y) \\ &= (a - b) * (2x + y) \end{aligned}$$

In [4]: %%latex

$$b^2(b - c) + c^2(c - b)$$

$$= b^2(b - c) + c^2(-1(-c + b))$$

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$=b^2(b-c)-c^2(b-c)$
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$(b^2-c^2)(b-c)$
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$$b^2(b-c) + c^2(c-b) = b^2(b-c) + c^2(-1(-c+b)) = b^2(b-c) - c^2(b-c) = (b^2 - c^2)(b-c)$$

In [ ]: